

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000053946	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2003/010150	International filing date (day/month/year) 12 September 2003 (12.09.2003)	Priority date (day/month/year) 24 September 2002 (24.09.2002)
International Patent Classification (IPC) or national classification and IPC C07F 9/28		
Applicant BASF AKTIENGESELLSCHAFT		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input checked="" type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand 13 February 2004 (13.02.2004)	Date of completion of this report 30 November 2004 (30.11.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2003/010150

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages _____ 1-21 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ 1-11 _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/10150

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims		YES
	Claims	2 - 6	NO
Inventive step (IS)	Claims		YES
	Claims	2 - 6	NO
Industrial applicability (IA)	Claims	2 - 6	YES
	Claims		NO

2. Citations and explanations

BOX III:

- 1). Claim 1 contains no process features and the unreasonable task of defining these absent features is therefore shifted onto a person skilled in the art.

BOX V:

- 1). The following documents represent the closest available prior art:

D1: AL'FONSOV V.A. ET AL: "S-Acetyl phosphorothioites: synthesis, isomerism, and some Reaktanz" JOURNAL OF GENERAL CHEMISTRY USSR, vol. 58, no. 8 - 20 January 1989 (1989-01-20), pages 1548-1553, XP002266089

CONSULTANTS BUREAU, NEW YORK, US

D2: EP-A-0 007 508 (BASF) 6 February 1980 (1980-02-06)

D3: SLUGGETT G.W. ET AL: "(2,4,6-Trimethyl-benzoyl)diphenylphosphine oxide Foto-chemistry. A direct time-resolved spectroscopic study of both radical fragments" JOURNAL OF THE AMERICAN

- CHEMICAL SOCIETY, vol. 117, no. 18 - 1995,
pages 5148-5153, XP002266090 AMERICAN CHEMICAL
SOCIETY, WASHINGTON, DC, US ISSN: 0002-7863
- D4: LINDNER E. ET AL: "Synthese und Stabilisierung
von (Benzoyl- und
Pentafluorbenzoyloxy)diphenylphosphan und
Vergleich mit den entsprechenden isomeren
Aroyldiphenylphosphanoxiden" ZEITSCHRIFT FUR
NATURFORSCHUNG, TEIL B: ANORGANISCHE CHEMIE,
ORGANISCHE CHEMIE, vol. 36b, 1981, pages 297-
300, XP008025993 VERLAG DER ZEITSCHRIFT FUR
NATURFORSCHUNG. TUBINGEN, DE ISSN: 0932-0776
- D5: BRIERLEY J. ET AL: "The relative
apicophilicities of pseudohalogen substituents
in five-coordinate phosphoranes" PHOSPORUS AND
SULFUR, vol. 7, 1979, pages 167-169,
XP008025989 GORDON AND BREACH SCIENCE
PUBLISHERS, GB ISSN: 0308-664X
- D6: US-A-2 659 747 (RICHARD W. YOUNG)
17 November 1953 (1953-11-17)
- D7: TANI K. ET AL: "Acylthio- and thioacyl-
thiophosphines ((RCES)nPPh₃-n, E=O, S; n=1-3):
Synthesis and structural analysis" BULLETIN OF
THE CHEMICAL SOCIETY OF JAPAN, vol. 73, no. 5 -
May 2000 (2000-05), pages 1243-1252, XP002266091
JAPAN PUBLICATIONS TRADING CO. TOKYO, JP ISSN:
0009-2673
- D8: SINITS A.D. ET AL: "Phosphorylation of N-
substituted carboxamides with
phosphorochloridites" JOURNAL OF GENERAL
CHEMISTRY USSR, vol. 56, no. 6 - 20 November
1986 (1986-11-20), pages 1113-1118, XP002266092
CONSULTANTS BUREAU, NEW YORK, US
- D9: BURGADA R.: "Mécanisme d'acidolyse de la liaison
PIII N et d'aminolyse de la liaison PIII OC(O)"

BULLETIN DE LA SOCIETE CHIMIQUE DE FRANCE. 1
PARTIE - CHIMIE ANALYTIQUE, MINERALE ET
PHYSIQUE, no. 11, 1972 - November 1972 (1972-
11), pages 4161-4163, XP002266093 SOCIETE
FRANCAISE DE CHIMIE. PARIS, FR

D10: PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10,
31 August 1998 (1998-08-31) & JP 10 120691 A
(SUMITOMO CHEM CO LTD), 12 May 1998 (1998-05-
12)

D11: NECAS M. ET AL: "The first six membered genuine
heterocycle: (Ph₃PCu(Ph₂P(S)-N-C(O)Ph))
"PHOSPHORUS, SULFUR AND SILICON AND THE RELATED
ELEMENTS, vol. 169, 2001, pages 55-58,
XP008026049 GORDON AND BREACH SCIENCE
PUBLISHERS, AMSTERDAM, GB ISSN: 1042-6507

- 2). The subject matter of the present application is
considered novel over D1-D11. None of these
citations discloses the use of a compound of formula
(I) as the parent substance in preparing a compound
of formula (II).

The novelty of claims 2-6 is therefore acknowledged.

- 3). D2 represents the closest prior art.

The problem addressed by the present invention is
considered that of proposing a further process for
preparing compounds of formula (II).

The examples show this problem to have been solved.

Since no document mentions the claimed process, nor
does any teaching disclose use of compounds of
formula (I) as parent substances, a person skilled

in the art would find no suggestion in the cited prior art that would lead him to propose the process as per the invention.

Inventive step is therefore acknowledged.

- 4). There are no objections with respect to industrial applicability.
- 5). With respect to the argument expressed by the applicant (letter of 27 July 2004), please note the following:

Patentability was acknowledged for claims 2-6, not for claims 1-6.

Since the compound (II) has already been described in D2 as a photoinitiator, a general inventive concept common to the process for its preparation and its use is difficult to discern.